



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
SAM NUNN
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA GEORGIA 30303-8960

April 11, 2011

Mr. Charles P. Nicholson
NEPA Manager
Tennessee Valley Authority
400 West Summit Hill Drive WT 11C
Knoxville, TN 37902

**Subject: EPA NEPA Review Comments on TVA's FEIS for the "Integrated Resource Plan, TVA's Environmental and Energy Future
CEQ No. 20110070**

Dear Mr. Nicholson:

The U.S. Environmental Protection Agency (EPA) has reviewed the subject Tennessee Valley Authority (TVA) Final Environmental Impact Statement (FEIS) in accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. The Integrated Resource Plan (IRP) provides options (future condition scenarios, alternative planning strategies, and resource planning portfolios) for TVA's future generation of electricity to sustainably supply the Tennessee Valley's projected need for power with a 15% reserve margin.

In the mid-1990s, EPA had provided comments on TVA's last energy planning IRP EIS (*Energy Vision 2020: EV2020*). Once final, the new IRP would supersede the adopted portfolios of EV2020 through 2029. We commend TVA for its overall development of a comprehensive energy plan and EIS and, specifically, for strategic planning that de-emphasizes conventional coal and pursues less polluting power generation strategies.

Overview

Currently, TVA's power capacity of 37,000 MW primarily consists of coal-fired and nuclear energy resources. Within the next few years, TVA plans to bring online the 880-MW John Sevier Combined Cycle (CC) plant and the 1,180-MW Unit 2 of the Watts Bar Nuclear Plant. Coal-fired generation capacity would be reduced for all IRP strategies, while reliance on other strategies would increase. Although not without impacts, the strategies proposed by TVA would reduce emissions of criteria air pollutants (National Ambient Air Quality Standards: NAAQS), air toxics (Hazardous Air Pollutants: HAPs) and greenhouse gases (GHGs) compared to actual conventional coal strategies.

Planning Options

TVA considered six conditions (Scenarios 1-6) for future power generation as well as re-considering their current planning approach (Scenario 7). These future condition scenarios are that: 1) the economy recovers dramatically; 2) the environmental focus is a national priority; 3) there will be a prolonged economic malaise; 4) there will be a game-changing technology; 5) there will be a reduced dependence on foreign energy sources; and 6) carbon regulation will create an economic downturn. Of these, we suspect that Scenario 5, and possibly 4, appear the most likely to eventuate. However, based on similarities in capacity expansion plans, TVA paired Scenarios 1 with 4, 2 with 5, and 3 with 6, with 7 being considered somewhat unique.

Five planning strategy alternatives were also considered: A) limited change in the current resource portfolio; B) baseline plan resource portfolio (No Action); C) diversity focused resource portfolio; D) nuclear focused resource portfolio; E) EEDR (energy efficiency and demand response) and renewables focused portfolio. These were evaluated under the retained Scenarios 1, 2, 3 and 7. Although TVA did not identify a preferred alternative strategy, alternatives A and D were eliminated, while B, C and E were further considered.

For each scenario of a planning strategy alternative, a 20-year resource plan (portfolios) was developed. A total of 35 portfolios were prepared to find an optimum resource option to meet the power generation needs over the 20-year planning period.

EPA agrees with the TVA elimination of a strategy with only limited change (Strategy A), since it would likely not be effective enough over the next 20 years since renewables and other emerging technologies would not be sufficiently emphasized. Similarly, the current baseline plan (Strategy B) would likely also not be adequate but as the No Action Alternative, would be carried forward in the EIS consistent with NEPA. The TVA-eliminated nuclear focused strategy (Strategy D) may also be too oriented toward one generating technology. We further agree that TVA-retained strategy planning action alternatives E and C both have attributes for long-term implementation since they both reduce conventional coal generation and increase renewables, natural gas and nuclear capacities.

EPA Recommendations

We commend TVA for its response to our comments in the DEIS. Our recommendations for the Final IRP consist of an overall NEPA recommendation for alternatives (planning options) and several recommendations specific to air quality.

Hazardous air pollutants generally have local impacts, so evaluation of their potential impacts should be considered locally rather than regionally. While regional air quality benefits are important, they should not be used to justify or offset increases in local concentrations of HAPs. When TVA considers the potential impacts of a facility, those evaluations should include the potential impacts of HAPs in the vicinity of the facility.

On February 18, 2010, CEQ proposed four steps to modernize and reinvigorate NEPA. In particular, CEQ issued draft guidance for public comment on, among other issues, when and

how Federal agencies must consider greenhouse gas emissions and climate change in their proposed actions. The draft guidance explains how Federal agencies should analyze the environmental impacts of greenhouse gas emissions and climate change when they describe the environmental impacts of a proposed action under NEPA. It provides practical tools for agency reporting, including a presumptive threshold of 25,000 metric tons of carbon dioxide equivalent (CO₂e) emissions from the proposed action to trigger a quantitative analysis, and instructs Federal agencies how to assess the effects of climate change on the proposed action and their design. The draft guidance does not apply to land and resource management actions and does not propose to regulate greenhouse gases.

We recommend that the IRP explicitly reference the guidance, describe the elements of the guidance, and to the relevant extent, provide the assessments suggested by the guidance.

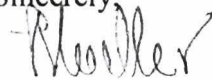
Based on the information provided in the FEIS, EPA prefers elements of alternative planning strategies E and C, with emphasis on E since it maximizes renewable power implementation and a reduction in conventional coal plants under the four scenarios reviewed (and in fact appears to replace capacity lost by coal layups with the addition of renewables capacity). Strategy C is environmentally attractive by offering a diversified approach to power generation which allows for greater flexibility over the planning period and may continue to utilize domestic coal supplies. EPA supports elements of both strategies that promote greater emphasis on diversity in power generation, renewables, customer efficiency/conservation, and use of cleaner technology for carbon-based resources.

Several other recommendations for the IRP on air quality impacts include: 1) documenting the effects of changing climate on TVA power production; 2) use of CO₂ as a surrogate for emissions reductions for other pollutants; 3) disclosure of the true GHGs emissions associated with nuclear power; 4) acknowledgement of the Council on Environmental Quality's (CEQ) draft guidance on GHGs analyses in NEPA reviews as well as completion of any already relevant assessments; 5) and discussion of types of on-site mitigation at power generation facilities that are in addition to the less-air-pollutant-intensive generation methods.

EPA commends TVA for its overall development of a comprehensive energy plan and EIS that de-emphasizes conventional coal and pursues cleaner power generation strategies over the 20-year planning period. We continue to recommend that strong consideration be given to an alternative similar to planning strategy E, modified to give greater emphasis on diversity in power generation, renewables, customer efficiency/conservation, and use of cleaner technology for carbon-based resources.

We appreciate the opportunity to review the proposed action. Please contact Ken Clark of my staff at (404) 562- 8282 if you have any questions or want to discuss our comments further.

Sincerely,

A handwritten signature in black ink, appearing to read "Mueller", with a stylized flourish at the end.

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management